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React-MailMerge

Server-Side React on
AWS Lambda

React-Amsterdam, 20 Feb 2018

<https://github.com/impraise/react-mailmerge>

Your Presenter



I'm DB!

- Senior Frontend Developer at Impraise
- Background in backend dev
- Serial conference presenter
- Likes solving problems

Impraise is hiring!
jobs.impraise.com

The Problem

- ❖ Our website sends a lot of email
- ❖ Spiky, time-sensitive workloads
- ❖ We use a mail delivery service (Postmark), but their templating support is not good enough
- ❖ Our servers have to render every email for every recipient, and pass them to Postmark one at a time
- ❖ Heavy load on the server

The Solution



AWS Lambda

Why React?

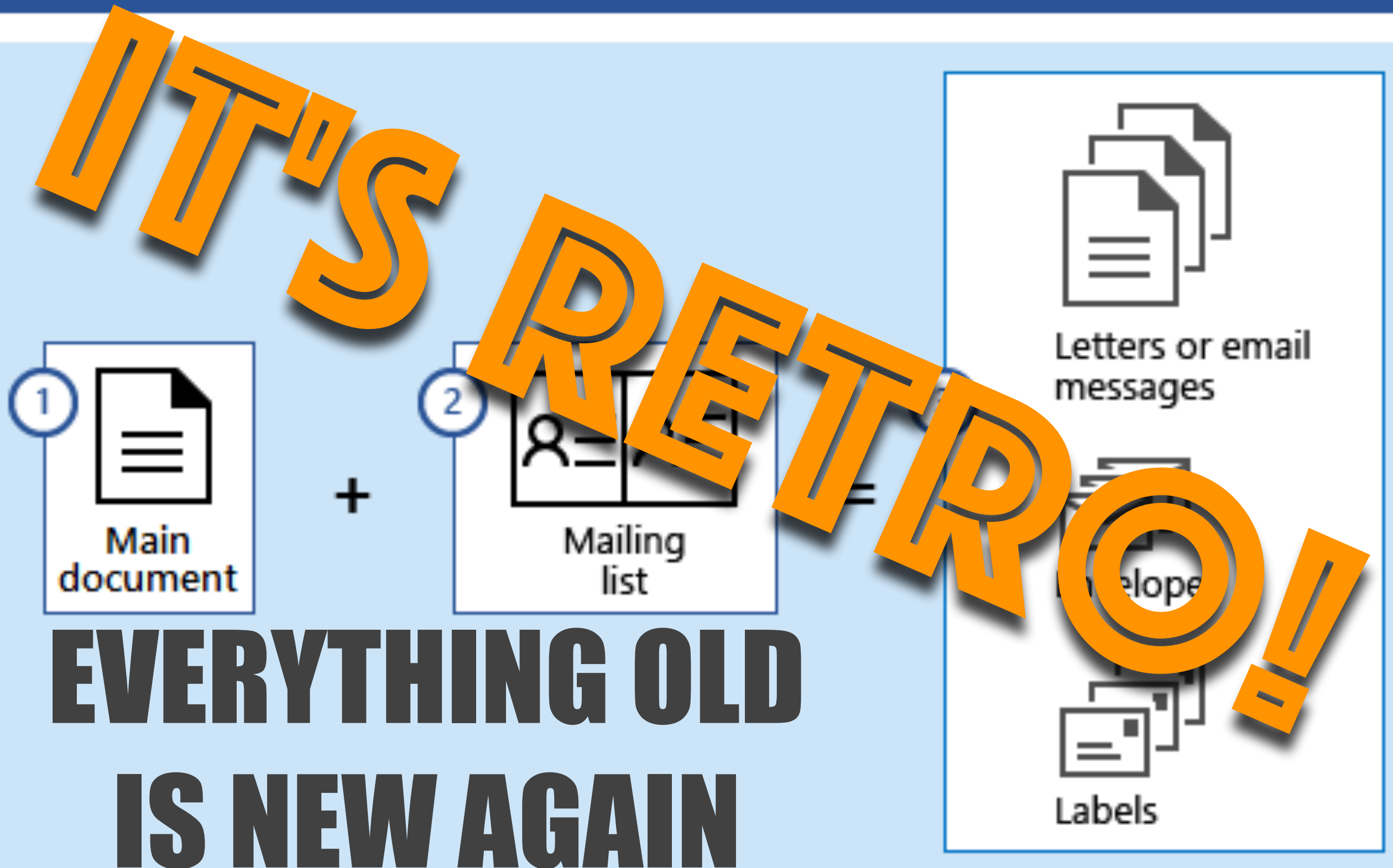
- ❖ Familiar technology (already using it at Impraise)
- ❖ Familiar use-case (rendering HTML from data)
- ❖ Access to the vast NPM ecosystem
- ❖ Because we can 😊

Introducing

React-MailMerge

`github.com/impraise/react-mailmerge`

3 files in the mail merge process



How does it work?

- ❖ One Lambda function per email template
- ❖ Invoke MailMerge with structured data
- ❖ MailMerge does robust data validation
- ❖ Renders one or many email templates, HTML & text
- ❖ Passes the results to your mail delivery service
- ❖ Returns/logs errors from mail delivery service

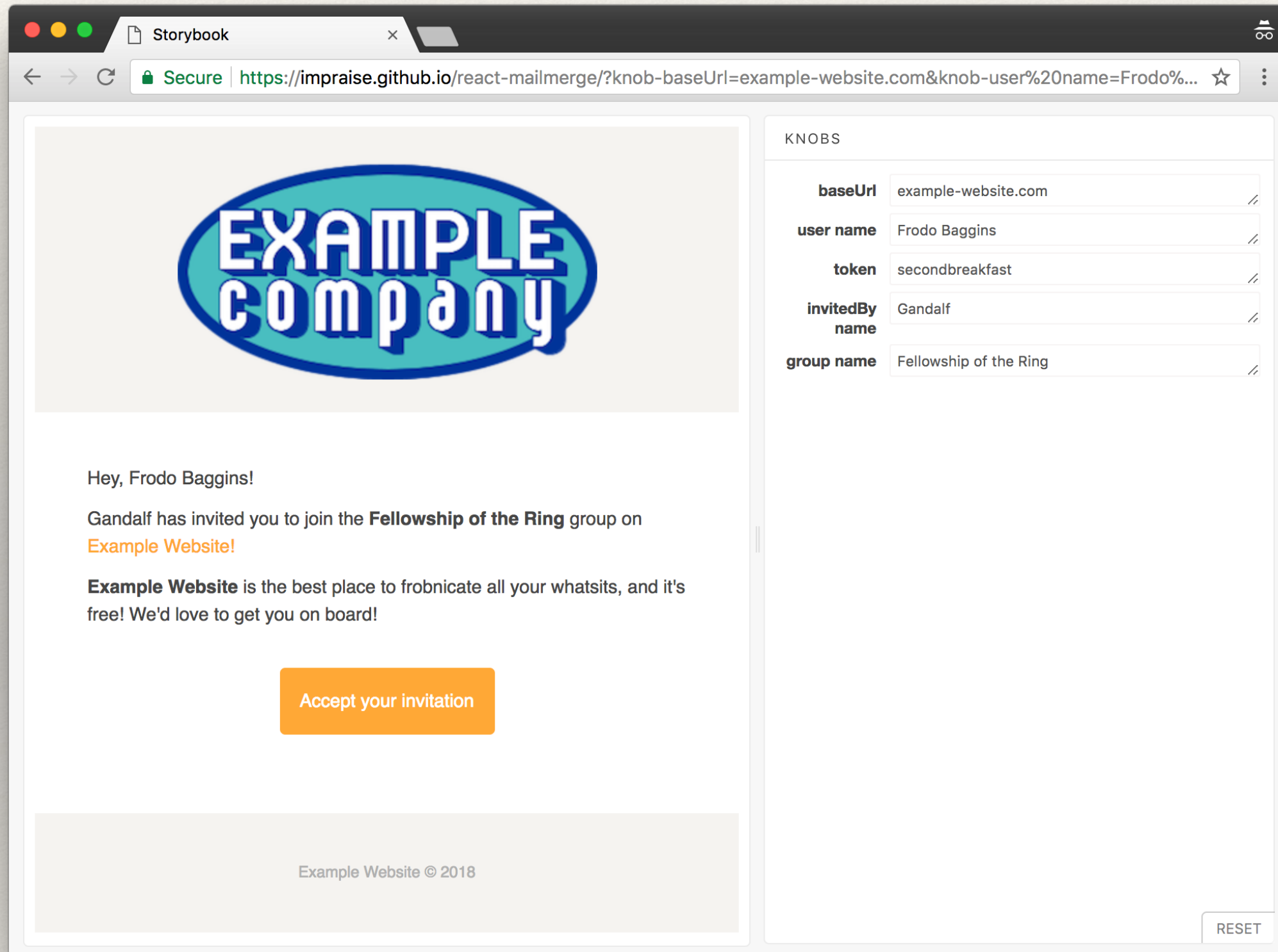
`github.com/impraise/react-mailmerge`

Extra Benefits

- ❖ Storybook for mail preview
- ❖ Fixing email copy is easy
- ❖ JSON Schema as documentation
- ❖ Localization & internationalization
- ❖ Continuous deployment via CI

`github.com/impraise/react-mailmerge`

Storybook Preview



`storybook.js.org -> impraise.github.io/react-mailmerge`

Easy Copy Edits

```
<Box cellPadding={5}>
  <Item>{greeting}</Item>
  <Item>
    {invitedBy.name} has invited you to join the <b>{group.name}</b>{" "}
    group on{" "}
    <A href={url} color={linkColor} textDecoration="none">
      {site.name}!
    </A>
  </Item>
  <Item>
    <b>{site.name}</b> is the best place to frobnicate all your
    whatsits, and it&apos;s free! We&apos;d love to get you on board!
  </Item>
  <CallToAction url={url} text="Accept your invitation" />
</Box>
```


JSON Schema

```
{
  "type": "object",
  "properties": {
    "baseUrl": {
      "description": "Links in the email should point to this base URL",
      "type": "string"
    },
    "user": {
      "description": "The person receiving this email",
      "type": "object",
      "properties": {
        "name": {
          "type": "string"
        },
        "email": {
          "type": "string"
        },
        "invitationToken": {
          "type": "string"
        }
      },
      "required": ["email", "invitationToken"]
    }
  },
  "required": ["email", "invitationToken"]
},
```


Localization

```
<FormattedTime  
  value={event.startAt}  
  timeZone={user.timeZone}  
  timeZoneName="short"  
/>
```

12:00 PM EDT

 **Format.JS**

github.com/yahoo/react-intl

Continuous Deployment

APEX

serverless architecture

<http://apex.run>

- ❖ Deploy directly from continuous integration server
- ❖ Easy to write automated tests for safety

github.com/impraise/react-mailmerge

Unexpected Problems

- ❖ Backwards-incompatible changes are painful
- ❖ Discovered data problems (but fixed them!)
- ❖ Still need to gather performance metrics
- ❖ Unexpected timeouts on Lambda

`github.com/impraise/react-mailmerge`

Help Us Out!

`github.com/impraise/react-mailmerge`

- ❖ Clone the repo and give it a try!
- ❖ Use different mail delivery services: Amazon SES?
- ❖ We need more / better documentation, and more example email templates
- ❖ Follow the patterns in the repo, and let us know if they're helpful!

Any Questions?

`github.com/impraise/react-mailmerge`



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